REMARKS

This amendment is responsive to the office action of November 11, 2008.

With regard to the 35 USC 103(a) rejection of claim 73 over Merchant 6,081,523 in view of Shimizu 5,293,378, Bleszynski 6,603,768, and Finney 5,570,556, applicant amends claim 73 "such that during intervals when said header or said payload is not being transmitted, an alternating pattern of a first preamble symbol and a second preamble symbol distinct from said first preamble symbol is transmitted across said n data lanes", whereas Merchant, Shimizu, Bleszynski, and Finney do not anticipate the use of an alternating preamble symbol as described in the specification page 12 lines 17-21.

With regard to the 35 USC 103(a) rejection of claim 74 over Merchant in view of Shimizu, Bleszynski, and Finney, applicant notes that claim 74 is a proper dependent claim of allowable amended independent claim 73.

With regard to the 35 USC 103(a) rejection of claim 75 over Shimizu in view of Finney, Bleszynski and Merchant, applicant has amended claim 75 to recite "said synchronization symbol being an alternating succession of a first preamble symbol followed by a second preamble symbol distinct from said first preamble symbol", which synchronization is not taught by these references. Reconsideration is requested.

With regard to the 35 USC 103(a) rejection of claims 76,78,80,82-83,86-89 over Shimizu in view of Finney, Bleszynski and Merchant, applicant notes that claims 76,78,80,82-83,86-89 are proper dependent claims which rely on an allowable amended independent claim.

With regard to the 35 USC 103(a) rejection of claim 77, 79, 81 over Shimizu in view of Finney and Bleszynski, applicant notes that amended independent claim 75 is allowable, and claims 77, 79, 81 are proper dependant claims relying on an allowable independent claim.

With regard to the 35 USC 103(a) rejection of claim 84-85, 90 over Shimizu in view of Finney, Bleszynski and Kimmitt, applicant notes that these are proper dependent claims which rely on allowable independent claim 75.

With regard to the 35 USC 103(a) rejection of claim 91 over Shimizu, Finney, and Merchant, applicant respectfully maintains that examiner's explanation of the operation of Shimizu (found on office action page 30, fourth paragraph) compared to claim 91 is not correct. Claim 91 recites:

sending a START symbol on said first data lane and said first three successive bytes of data from said stream on said second, said third, and said fourth data lanes during one said time sequence;

sending the remainder of said data stream by sending each subsequent four bytes of unsent data on said first, said second, said third, and said fourth data lanes during successive said time sequences until there is insufficient data to send on all four said data lanes, said insufficient data being final data;

whereas Shimizu chops the packet into a four time sequential segments (length + a), (b), (c), and (d), each of total size "PAYLOAD" (fig 3) and transmits these simultaneously on four different segments. If the stream of data were "a1 ...a8 b1 ... b8 c1 ... c8 d1...d8", then Shimizu would simultaneously transmit "a1 through a8" on lane 101, "b1 through b8" on lane 102, "c1 through c8" on lane 103, and "a1 through a8"

on lane 104. Applicant provided the example where claim 91 transmits "a1 a5 b1" on a first lane, "a2 a6 b2" on a second lane, "a3 a7 b3" on a third lane, and "a4 a8 b4" on a fourth lane. Office action page 30 paragraph 5 states "Examiner equates a, b, c, d to a1, a2, a3 as argued above", which requires that the size of byte "a1" be the same length as Shimizu's entire PAYLOAD (fig 3). For this scenario, figure 3 202 would show LENGTH + "a1" equal in length to "a2" and "a3", which is impossible since "a1" and "a2" are both bytes, and LENGTH is not of zero length. Further, figure 2 would transmit a packet having a total of 6 bytes of data ("a" through "f"), whereas the Ethernet packet Shimizu hopes to transmit is a *minimum* of 46 bytes of payload data or 64 bytes total of header, payload data, and CRC, as known in the IEEE Ethernet standards and described in Shimizu col 1 lines 18-29. The motivation of Shimizu is to add additional channel bandwidth to compensate for transmission lines that are not capable of native Ethernet data rates as they become physically longer (col 1 lines 30-37), whereas examiner's LENGTH = 1 byte results in a maximum data throughput of 50% (each segment is either one byte of data or SYN), which is opposite Shimizu's objective of increasing throughput. Therefore, applicant submits that examiner's interpretation of Shimizu as carrying segments of single byte LENGTH of figure 2 is neither described, nor anticipated by Shimizu,

which teaches away from examiner's construct and towards higher values of LENGTH.

Nevertheless, applicant has amended claim 91 to include the further limitation "sending a preamble on said first, said second, said third, and said fourth data lanes until said variable length data is ready to transmit, said preamble including sending the alternating sequence of a first preamble symbol and a second preamble symbol distinct from said first preamble symbol across said four data lanes, and when said data stream is ready to transmit:", which is distinguishable over the cited references.

With regard to the 35 USC 103(a) rejection of claims 92-93 over Shimizu in view of Finney, applicant notes that these are proper dependent claims of an allowable independent claim 91.

With regard to the 35 USC 103(a) rejection of claims 94, 95, 96, and 98 over Shimizu in view of Finney, applicant notes that these claims rely on dependent claim 93, which relies on allowable independent claim.

With regard to the 35 USC 103(a) rejection of claim 97 over Shimizu and Finney, Merchant, and Widmar, applicant

notes that this claim is allowable as being proper and relying on an allowable independent claim.

With regard to the 35 USC 103(a) rejection of claims 100 and 101 over Shimizu, Finney, Merchant, and Chung 5,764,895, applicant notes that these claims are allowable as being properly formed and ultimately relying on an allowable amended claim 91.

Applicant notes that claim 102 was found allowable in the office action of Nov 14, 2008, which limitation related to preamble sequence has been presently amended to claims 73, 75, 91, 104, and 112.

With regard to the 35 USC 103(a) rejection of claim 104 over Finney in view of Shimizu and Bleszynski, applicant amends this claim to include the limitation "said deserializer synchronizing to the alternating sequence of an first preamble symbol followed by an second preamble symbol distinct from said first preamble symbol". As a deserializer which synchronizes in this manner is not described in the prior art, reconsideration is requested.

With regard to the 35 USC 103(a) rejection of claims 105-111, applicant notes that these are proper dependent

claims which ultimately rely on an allowable amended independent claim.

With regard to the 35 USC 103(a) rejection of claim 112 over Finney and Kimmitt and Allen, applicant amends this claim to include the limitation "said deserializer synchronizing said four data lanes using the alternating sequence of a first preamble symbol followed by a second preamble symbol distinct from said first preamble symbol, said alternating sequence present said four data lanes". Reconsideration is requested.

With regard to the 35 USC 103(a) rejection of claims 113, 114, 115, 116, 117, 118, 119, applicant notes that these are proper dependent claims which ultimately rely on allowable amended independent claim 112.

With this amendment, this application is in condition for allowance. Examiner is advised that agent Chesavage may be reached by telephone at 650-619-5270, or via e-mail at patents@chesavage.com

Respectfully Submitted,

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